

**(AG518) Mechanics of Tillage and Traction**

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**Unit 1**

Introduction to mechanics of tillage tools, engineering properties of soil, principles and concepts, stress strain relationship,

**Unit II**

Design of tillage tools principles of soil cutting, design equation, force analysis, application of dimensional analysis in soil dynamics performance of tillage tools.

**Unit III**

Introduction to traction and mechanics, off road traction and mobility, traction model, traction improvement, traction prediction,

**Unit IV**

Tyre size, tyre lug geometry and their effects, tyre testing, soil compaction and plant growth,

**Unit V**

Variability and geo statistic, application of GIS in soil dynamics.

**TEXT BOOKS:**

1. Mc Kyes.E. *Agricultural engineering soil mechanics*. Elsevier Amsterdam.
2. Milligan, G.M.E and Houlby, G.T. *Basic Soil mechanics*,. Butter worth scientific London.

**REFERENCE BOOKS:**

1. Mc Kyes.E. *Soil Cutting*. Elsevier Amsterdam.
2. William Lambe.T.Whiteman and Robert.V. *Soil Mechanics*. Wiley Eastern Ltd., New Delhi.